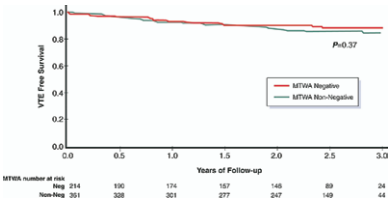
Inside This Issue of JACC

NOVEMBER 11, 2008, VOLUME 52, NO. 20



Page 1611

Clinical Trial

MTWA Does Not Predict Arrhythmias in ICD Patients

Testing for microvolt T-wave alternans (MTWA) may help to predict the risk of ventricular tachyarrhythmic events (VTEs). The MASTER trial evaluated the utility of MTWA in post-infarction prophylactic defibrillator (implantable cardioverter-defibrillator [ICD]) recipients. After 2 years of follow-up, there was no significant difference in VTEs between MTWA non-negative and MTWA negative patients. MTWA does not appear to be a sufficient discriminator of risk to be used for decisions regarding the necessity of ICD implantation. **See page 1607. See figure.**

Interventional Cardiology

Bioabsorbable Stents May Have More Late Stent Recoil

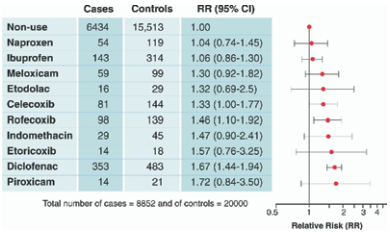
Bioabsorbable polymer stents are more flexible than metallic stents and are designed to be fully metabolized and absorbed over 2 to 3 years. Tanimoto and colleagues repeated intravascular ultrasound images in patients who had received a bioabsorbable everolimus-eluting coronary stent 6 months earlier. The mean reduction in cross-sectional area was 0.65 mm^2 or 7.6%. This compares to 0.6% for the Palmaz-Schatz stent and 0.3% for the XIENCE V stent seen in earlier studies. These results suggest that bioabsorbable polymer stents do have more stent recoil than metallic stents. **See page 1616.**

Interventional Cardiology

SES Superior to BA for ISR: Long-Term Results

The RIBS-II study randomized patients with in-stent restenosis (ISR) to either sirolimus-eluting stent (SES) or balloon angioplasty (BA). At 1 year, subjects assigned to SES had a lower restenosis rate (11% vs. 39%). This article focuses on outcomes over the subsequent 3 years. There were similar rates of death, myocardial infarction, and target vessel revascularization, with similar low rates of stent thrombosis. The event-free survival was higher in the SES arm (76% vs. 65%). The improved outcomes with SES for ISR are maintained up to 4 years after intervention with no evidence of a late "catch-up." **See page 1621.**

(continued on page A-24)

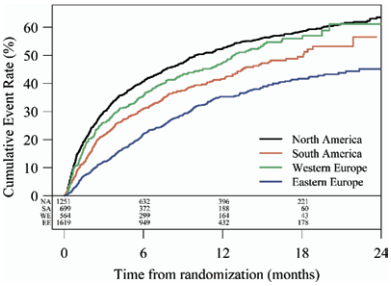


Page 1632

NSAIDs and Myocardial Infarction

Risk of MI With NSAIDs Linked to Degree of COX-2 Inhibition

García Rodríguez and colleagues studied the association between the frequency, dose, and duration of use of nonsteroidal anti-inflammatory drugs (NSAIDs) and the risk of myocardial infarction (MI). The hazard ratio for current users was 1.35. The risk increased with treatment duration and dose, and there was a significant correlation between the degree of inhibition of cyclooxygenase (COX)-2, but not COX-1. This study suggests that the degree of inhibition of COX-2 is a surrogate predictor of the relative increased risk of MI by NSAIDs. **See pages 1628 and 1637. See figure.**

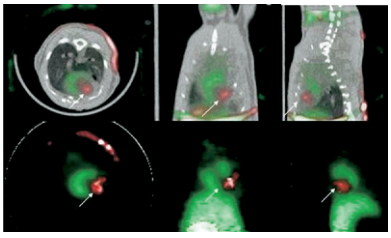


Page 1644

Heart Failure

Differences in Etiology of HF and Clinical Outcomes Across the World

Blair and colleagues used data collected during the EVEREST trial to examine differences in the presentation and management of heart failure (HF) by geographical location. Subjects were divided into 4 geographic regions: North America, South America, Western Europe, and Eastern Europe. There were significant differences in unadjusted 1-year mortality, cardiovascular mortality, hospitalization for HF, etiology of HF, and comorbidities by region. The heterogeneous outcomes were related to differences in severity, etiology, and management of HF and need to be considered when planning global clinical trials for patients with HF. **See pages 1640 and 1649. See figure.**



Page 1658

Pre-Clinical Research

Imaging Transplanted Stem Cells Made Possible by Transfection

Terrovitis and colleagues wanted to develop a technique that would allow in vivo imaging of viable transplanted stem cells. Rat cardiac-derived stem cells (rCDCs) were transfected with the gene for the sodium-iodide symporter (NIS), which promotes cellular uptake of technetium 99m (^{99m}Tc) or iodine 124 (^{124}I). The transfected cells were then injected into the myocardium shortly after ligation of the left anterior descending artery. Cells were visualized as regions of ^{99m}Tc or ^{124}I uptake on single-photon emission computed tomography and positron emission tomography images, respectively. This approach allows for stem cell tracking using clinically available imaging modalities. **See pages 1652 and 1661. See figure.**

(continued on page A-28)

News From the NCDR

Prior CABG Associated With Longer DTB Times

Kim and colleagues queried the National Cardiovascular Data Registry (NCDR) to determine whether a prior history of coronary artery bypass graft (CABG) surgery correlates with prolonged door-to-balloon (DTB) times among ST-segment elevation myocardial infarction patients. In the 70,000 patients examined, median DTB time was 15 min longer in patients with prior CABG (113 min vs. 98 min), and only 40% of patients with CABG had a DTB <90 min. This analysis finds that a history of CABG surgery is associated with significantly prolonged DTB, which may substantially impact the performance measurement for a given hospital depending on the case mix. **See page 1665.**

Year in Cardiology Series

The Year in Heart Failure

Tang and Francis summarize the year's most relevant publications related to heart failure. The articles are placed in context and arranged into categories including genetics, biomarkers, and treatment strategies. They conclude that the reliance on mega-trials to formulate clinical evidence for the treatment of heart failure is becoming outdated, with a new emphasis needed on individualized therapy based on genetic, biochemical, and echocardiographic profiling. **See page 1671.**